

Exploring Opportunities and Challenges of Artificial Intelligence and Machine Learning in Higher Education Institutions

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Abstract

The way people travel, organise their time, and acquire information has changed due to information technologies. Artificial intelligence (AI) and machine learning (ML) are mechanisms that evolved from data management and developing processes. Incorporating these mechanisms into business is a trend many different industries, including education, have identified as game-changers. As a result, education platforms and applications are more closely aligned with learners' needs and knowledge, making the educational process more efficient. Therefore, AI and ML have great potential in e-learning and higher education institutions (HEI). Thus, the article aims to determine its potential and use areas in higher education based on secondary research and document analysis (literature review), content analysis, and primary research (survey). As referent points for this research, multiple academic, scientific, and commercial sources were used to obtain a broader picture of the research subject. Furthermore, the survey was implemented among students in the Republic of Serbia, with 103 respondents to generate data and information on how much knowledge of AI and ML is held by the student population, mainly to understand both opportunities and challenges involved in AI and ML in HEI. The study addresses critical issues, like common knowledge and stance of research bases regarding AI and ML in HEI; best practices regarding usage of AI and ML in HEI; students' knowledge of AI and ML; and students' attitudes regarding AI and ML opportunities and challenges in HEI. In statistical considerations, aiming to evaluate if the indicators were considered reflexive and, in this case, belong to the same theoretical dimension, the Correlation Matrix was presented, followed by the Composite Reliability. Finally, the results were evaluated by regression analysis. The results indicated that AI and ML are essential technologies that enhance learning, primarily through students' skills, collaborative learning in HEI, and an accessible research environment.